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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,916	11/02/2001	Hiroyuki Ito	3019.002USU	7771

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EXAMINER

VIJAYAKUMAR, KALLAMBELLA M

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/003,916

Applicant(s)

ITO ET AL.

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Detailed Action

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/12/2004 has been entered.
- Claims 1-2 and 5-6 are currently pending with the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

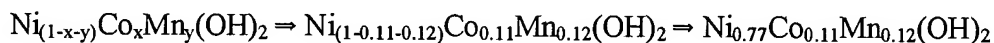
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2 and 5-6 are rejected under 35 U.S.C. 102(b) as anticipated by Ikoma et al (US Patent No. 5,700,596).

Ikoma et al teach the composition of ternary composite nickel hydroxides containing 1-7 wt% of at least one of Cd, Ca, Zn, Mg, Fe, Co, and Mn (Col-2, Line 67 to Col-3, Line 19) by co-precipitation technique in a continuous process. The tap density of the Ni-mixed hydroxide by Ikoma et al was in the range of between 1.8-2.3 g/cc that would meet the limitation of tap density of 1.5 g/cc or greater in instant claims-1 and 5. Addition of 1-7 wt% of the component elements in the composition of the mixed hydroxides would translate to 0.02-0.11 Moles of Co and 0.02-0.12 Moles of Mn, when Co and Mn when are the preferred component elements from a small list containing only seven preferred metals would inherently meet the limitation of composition and ranges in instant claims-2 and 5. A typical Ni-Mn-Co-hydroxide composite composition of Ikoma et al would be:

[Ni (OH)₂, FW: 92.71=1 Mole], 7 wt% Co [6.49 gm, 0.11 Mole=x] and 7wt% Mn [6.49 gm, 0.12 mole=y]



and this would meet the limitations of the composition in instant claims 2 and 5. The spherical particles produced by Ikoma et al would meet limitation of "spherical particles" in the instant claims (Col-5, Lines: 1-10, Col-6, Lines 8-10, Table-1, Col-7, Lines: 66-67, Tables 2-3, Col-13, Table-10, Abstract, Figure-1).

The product by process limitations of instant claims 5-6 would not be patentable. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious

from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

All the limitations of the instant claims are met.

The reference is anticipatory.

2. Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by Komatsu et al (U.S. 6,132,639).

Komatsu et al disclose composite Nickel hydroxide containing Co and Mn that have substantially spherical particles with a high tap density of 2.2 g/cc, that would meet the limitation of instant claim (Col-8, Lines 18-68). All the limitations of the instant claim are met.

The reference is anticipatory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 1 rejected under 35 U.S.C. 103(a) as being unpatentable over Ovinshsky et al (US 6,086,843) as applied to claim 1 above, and further in view of Aladjov (US 5,788,943).

Ovinshsky et al disclose *spherical nickel hydroxides composites* with a tap density of greater than 1.8 g/cc containing *one or more* modifier elements selected from the group consisting of Al, Ba, Bi, Ca, Co, Cr, Cu, Fe, In, K, La, Li, Mg, Mn, Na, Nd, Pb, Pr, Ru, Sb, Sc, Se, Sn, Sr, Te, Ti, Y, Zn, and mixtures thereof (Col-6, Lines 23-29, 52-54, Col-7, Lines 20-25, Table-1). It would have been obvious to one of ordinary skill in the art to modify the composition of Ovinshsky et al by optionally choosing Co and Mn as modifiers to benefit from reduced swelling and reduced reaction potential, as it would have been customary to do such a modification in the art at the time of disclosure of invention by the applicants as shown by Aladjov (Col-1, Lines: 61-64; Col-2, Lines: 17-21; Col-3, Lines 4-16, Col-4, Lines 19-20) in the analogous art, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claim by the applicants.

2. Claim 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikoma et al (US Patent No. 5,700,596) as applied to claim 1/4 above, and further in view of Aladjov (US 5,788,943).

Ikoma et al teach the composition of *ternary composite nickel hydroxides* containing 1-7 wt% of *at least one of* Cd, Ca, Zn, Mg, Fe, Co, and Mn (Col-2, Line 67 to Col-3, Line 19) by co-precipitation technique in a continuous process. The tap density of the mixed hydroxide by

Ikoma et al was in the range of between 1.8-2.3 g/cc that would obviously meet the limitation of tap density of 1.5 g/cc in instant claims-1 and 5 (Col-5, Lines: 1-10, Col-6, Lines 8-10, Table-1, Col-7, Lines: 66-67, Tables 2-3, Col-13, Table-10). Addition of 1-7 wt% of the component elements in the composition of the mixed hydroxides would translate to 0.02-0.11 Moles of Co and 0.02-0.12 Moles of Mn, when Co and Mn when are the preferred component elements from a small list containing only seven preferred metals would obviously meet the limitation of composition and ranges in instant claims-2 and 5. The spherical particles produced by Ikoma et al would meet limitation of "spherical particles" in the instant claims (Abstract, Figure-1).

It would have been obvious to one of ordinary skill in the art to modify the composition of Ovinshsky et al by optionally choosing Co and Mn as modifiers to benefit from reduced swelling and reduced Ni reaction potential, as it would have been customary to do such a modification in the art at the time of disclosure of invention by the applicants as shown by Aladjov (Col-1, Lines: 61-64; Col-2, Lines: 17-21; Col-3, Lines 4-16, Col-4, Lines 19-20) in the analogous art, and with the expectation of reasonable success in obviously arriving at the limitations of the instant claim by the applicants.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMV
December 22, 2004.


Mark Kopec
Primary Examiner